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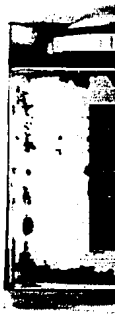

FIFTH SCIENTIFIC SESSION OF INSTITUTE OF SURGERY IMENI A. V. VISHNEVSKIY

Meditsinskiy Rabotnik
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The Institute of Surgery imeni Vishnevskiy has a well established tradition of friendly collaboration between clinicists and physiologists. The advantage of investigations carried out in this manner has been demonstrated repeatedly in investigations on the effects of novocain blockade, on protective inhibition, on cortico-visceral relationships in surgical conditions, and on a number of other problems.

At present the institute has combined the efforts of many clinicists, physiologists, and morphologists for the investigation of problems dealing with compensation of functions after major surgical interferences. At the Fifth Scientific Session of the Institute imeni Vishnevskiy, the problem of compensation in chest surgery was subjected to detailed discussion from the various aspects involved. Another important problem, that of the transplantation of organs and tissues, was also discussed at the session.

The surgeon N. N. Petrov told of the method he proposed for the restoration of the elbow joint. The basis of Petrov's plastic surgery of the elbow joint is replacement of the defective part by a large bone transplant. By using Petrov's multistage surgical procedure one may reconstruct a completely usable elbow joint.

The problem of the transplantation of organs and tissues was discussed at the session mainly from the immunological and physiological standpoints. This is completely justified at the present stage of the development of surgery, when the techniques for the transplantation of organs have reached a considerable perfection. However, unsuccessful homotransplantations and heterotransplantations occur. The failure of such transplantations is caused by immunobiological reactions of the organism in response to the introduction of foreign tissue which exerts an antigenic effect.

N. P. Sinitsin (Gor'kiy) expressed the hope that the problem of the homotransplantaion of organs would be solved, notwithstanding the existing difficulties. Sinitsin, in the course of 20 years' work on the problem of homotransplantation, developed a technique for transplanting successfully the heart of one frog into another. Sinitsin investigated the manner in which the central nervous system affects the transplanted heart and also the time necessary for the restoration of nerve connections between the transplanted heart and the body. On the basis of investigations of the dynamics of blood flow, using electrocardiographic and histological data, one may conclude that the basic physiological functions of the transplanted heart are fully restored after 3 to 3 5 months. Sinitsin, as well as some other investigators, obtained data to the effect that preliminary preservation at low temperatures of the heart to be transplanted facilitates assimilation of the heart. Sleep therapy also contributes to the improvement of the results of transplantations of the heart in frogs.

V.P. Demikhov reported on the transplantation of the heart, lungs, and kidneys in higher animals. As the method of operation used in heart transplantation was perfected, the length of survival of dogs with a transplanted heart was increased from several hours to several days.

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Yu. Yu. Voronoy (Kiev) in his report reached the conclusion that immunity as exhibited in transplantations is a general reaction of the organism to external irritants of the protein type, and that this reaction is regulated by neurotrophic effects. A negative reaction to the transplantation of organs may be prevented not so much by a perfected surgical technique as by an active modification of the trophic activity of the nervous system. Voronoy communicated his experience in successfully transplanting preserved kidneys from corpses to patients. This operation was performed with the purpose of treating acute forms of toxic nephritis. It was established that even temporarily functioning transplanted kidneys have a beneficial effect of the restoration of the functions of the patient's own kidneys.

Voronoy has also carried out successful experiments in which assimilation of transplanted heterogenous tumors in animals was achieved and growth of these tumors obtained.

G. M. Shpuga (Ivanovo Medical Institute) reported on his experiments on the transplantation of kidneys in animals and demonstrated instruments he designed for applying sutures to blood vessels.

N. N. Mazayev and P. M. Chepov reported on the remote results of experimental autoplastic transplantations of extremities. Five years ago autoplastic transplantations of extremities in dogs were carried out. In these transplantations, the extremity was separated for 20 to 40 minutes from the body. Later, in operations conducted by A. A. Vishnevskiy and P. N. Mazayev, the amputated extremity of a dog was separated from the body for one hour and 50 minutes. Nevertheless, assimilation took place.

With the aid of special methods, the restoration of blood circulation, of lymph circulation, and of nerve conductivity, and the regeneration of bone tissue, were investigated in these experiments.

A. G. Lapchinskiy, in his report, emphasized the importance of the preliminary preservation of organs prior to transplantation. This preservation frees, to a certain extent, the organs of specific antigenic properties. Lapchinskiy stressed the necessity of creating special equipment for the preservation and conservation of the vitality of organs to be transplanted. A. K. Tychinkina of the Gor'kiy Institute of Restorative Surgery told the results of autotransplantations and homotransplantations of blood vessels in dogs. A mechanical suture was applied to blood vessels in these transplantations.

N. I. Petrova, scientific associate at the Institute of Experimental Surgical Equipment and Instruments, told of the application of mechanical sutures in the plastic surgery of blood vessels. Petrova is of the opinion that autoplastic restoration of arterial trunks by means of veins, using a mechanical blood-vessel suture, is entirely possible and may be successfully carried out in the clinic. Petrova also expressed the opinion that the mechanical suture is preferable in many respects to a manually applied suture from the standpoint of both immediate and remote consequences of the operation. M. I. Shrayber (Chkalov) told of autoplastic transplantations of bones in growing organisms on the basis of work done by him.

Ye. K. Korovina outlined work on the free transplantation of skin done at the Faculty Surgical Clinic of the Kursk Medical Institute. Korovina investigated the functional state of the skin transplants at various times after the transplantation.

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